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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/478,849

01/06/2000

SHAWN L. KELLY

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02/16/2006

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2701 CAMBRIDGE COURT, STE. 410
AUBURN HILLS, MI 48326

EXAMINER

NGUYEN, THONG Q

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/478,849

Applicant(s)

KELLY, SHAWN L.

Examiner

Thong Q. Nguyen

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 and 46-87 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-31, 46-56, 70-71, 74-75 and 78-87 is/are allowed.
6) ☒ Claim(s) 32-43, 57-69, 72, 73, 76 and 77 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/28/05
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendment filed on Sept. 26, 2005. It is noted that in the amendment, applicant has made changes to the specification and the claims. Regarding to the claims, applicant has amended claims 32-33, 42-43, 57-58, 62, 65-66, 69 and 78. The pending claims 1-43 and 46-87 are examined in this Office action. Claims 44-45 were canceled by the applicant in the amendment of 1/22/2001.

Reissue Applications

2. Applicant is reminded of the continuing obligation under 37 CFR 1.178(b), to timely apprise the Office of any prior or concurrent proceeding in which Patent No. 5,706,137 is or was involved. These proceedings would include interferences, reissues, reexaminations, and litigation.

Applicant is further reminded of the continuing obligation under 37 CFR 1.56, to timely apprise the Office of any information which is material to patentability of the claims under consideration in this reissue application.

These obligations rest with each individual associated with the filing and prosecution of this application for reissue. See also MPEP §§ 1404, 1442.01 and 1442.04.

Specification

3. The lengthy specification which is amended by the amendment of 9/26/05 has not been checked to the extent necessary to determine the presence of all possible

minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 38 and 39 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

a) Claim 38 recites the feature thereof "the light redistributing means comprises an optical element selected from a group consisting of...holographic surface" (claim 38, lines 1-4); however, the base claim 32 recites that the light redistributing means comprises a light-scattering screen (see claim 32, lines 5-6). Thus, the limitation regarding to the type of the light redistributing means as claimed in claim 38 fails to further limit the light redistributing means as recited in its base claim 32.

b) Claim 39 is objected to for the similar reason as set forth in element a) above.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 32-43, 57-69, 72-73 and 76-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood (U.S. Patent No. 4,669,810) in view of Kato et al (U.S. Patent No. 5,187,597) and Opittek et al (U.S. Patent No. 3,915,548) (all of record).

Wood discloses an optical system having an information source in the form of a cathode-ray-tube (20), a means (26) including a plurality of lens elements for forming an intermediate image (54) of the information source, a reflective holographic element (28) disposed near the intermediate image for reflecting the image towards an optical system (32,34,36) for re-imaging the intermediate image for the purpose of providing an image to an observer. It is also noted that the optical system for re-imaging as described by Wood at column 3 will provide a virtual image of the intermediate image to the observer through an exit pupil viewable by the eyes of the observer. See Wood, columns 3-4 and 6-7 and figs. 2-4. It is also noted that the holographic element (28) has a curved surface and used to correct for the aberrations caused by the re-imaging means as can be seen in columns 3-4 and 6. While Wood teaches the arrangement of the holographic element (28) near the position of the intermediate image formed by the imaging means (26), he does not clearly state that the position of the holographic element is located proximately to the position of the intermediate image as claimed. However, the use of an information source, a means for forming an image of the source, and a curved reflecting element at the position of the intermediate image is suggested to one skilled in the art as can be seen in the optical system provided by Kato et al. See column 8 and fig. 9.

Regarding to the feature that the light redistributing means comprises a light-scattering screen as recited, it is noted that any type of optical element including a holographic element still scatter light in a particular amount. It is noted that while the claims recites that the light redistributing means comprises a light-scattering screen; however, there is not any specific limitations/features related to the structure of the so-

called "light-scattering" screen. It is also noted that the feature related to the light redistributing means in the form of a light-scattering screen as claimed is merely that of a preferred embodiment and no criticality has been disclosed. The support for that conclusion is found in the present claims 38-39 in which applicant has disclosed that the redistributing means is selected from a group having a holographic element. Further, the feature related to a so-called "screen " is provided by Kato et al as can be seen in columns 13+ in which Kato et al disclose a holographic screen (61). Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system provided by Wood by rearranging the position of the holographic element (28) at a position proximately or on the position of the intermediate image formed by the imaging means as suggested by Kato et al for the purpose of providing an image with better focus and brightness while still maintaining the function of correcting the image aberrations occurred by the imaging means and the re-imaging means in the system. It would also have been obvious to one skilled in the art at the time the invention was made to use any non-holographic optical element (see Wood, column 7, lines 8-12 and 37-39) including a light-scattering screen for meeting a particular application.

With regard to the feature concerning the type of the source for providing light to the imaging means. In other words, while Kato et al discloses the use of an information source, and Wood discloses that the image source is a cathode-ray-tube, both Wood and Kato et al do not clearly state the information source can be a source which provides a modulated scanning light. However, the feature concerning the type of the information source as claimed is merely that of a preferred embodiment and no

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criticality has been disclosed. The support for this conclusion is found in the present specification at column 4 (lines 20-23) in which applicant has admitted that the information source can be a cathode-ray-tube or a liquid crystal display. In this aspect, each the optical apparatus of Kato et al or Wood meets the requirement. Furthermore, the use of an information source in the form of a source providing modulated scanning light in place of a cathode-ray-tube is known to one skilled in the art as can be seen in the optical system provided by Opittek et al. In particular, at column 6 (lines 64-68), Opittek et al teach that the image source can be a cathode-ray-tube or a modulated laser scanning system. Thus, absent any showing of criticality as well as the specific structure of the image source in the form of the modulated scanning light source, it would have been obvious to one skilled in the art at the time the invention was made to modify the combined product as provided by Wood and Kato et al by using a modulated laser scanning system or other information source known to one skilled in the art in the system of Kato for the purpose of satisfying a particular application or for the purpose of providing a system with better optical performance.

Response to Arguments

7. Applicant's arguments filed on 9/26/05, pages 13-15, have been fully considered but they are not persuasive.

Applicant has argued that the art of record does not disclose that the light redistributing means is a light-scattering screen as is now claimed. The Examiner respectfully disagrees and respectfully invited the applicant to review the art of Kato et al. Regarding to the feature that the light redistributing means comprises a light

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redistributing screen as recited, it is noted that any type of optical element including a holographic element still scatter light in a particular amount. It is noted that while the claims recites that the light redistributing means comprises a light-scattering screen; however, there is not any specific limitations/features related to the structure of the so-called "light-scattering" screen. It is also noted that the feature related to the light redistributing means in the form of a light-scattering screen as claimed is merely that of a preferred embodiment and no criticality has been disclosed. The support for that conclusion is found in the present claims 38-39 in which applicant has disclosed that the redistributing means is selected from a group having a holographic element. Further, the feature related to a so-called "screen " is provided by Kato et al as can be seen in columns 13+ in which Kato et al disclose a holographic screen (61). Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system provided by Wood by rearranging the position of the holographic element (28) at a position proximately or on the position of the intermediate image formed by the imaging means as suggested by Kato et al for the purpose of providing an image with better focus and brightness while still maintaining the function of correcting the image aberrations occurred by the imaging means and the re-imaging means in the system. It would also have been obvious to one skilled in the art at the time the invention was made to use any non-holographic optical element (see Wood, column 7, lines 8-12 and 37-39) including a light-scattering screen for meeting a particular application.

Regarding to the applicant' arguments that the device of the prior art does not disclose the features related to the cancellation of the image aberrations of the

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intermediate image as recited in claims 42 and 43, the Examiner respectfully disagrees with the applicant has respectfully invited the applicant to review the art of Wood. In particular, the intermediate image (54) formed by the lens system (26) contains image aberrations and such image aberrations are compensate/cancel by the reimaging system (12). Applicant should note that the system (12) as taught by Wood comprises an optical lens (34) disposed in front of the reflective surface (32) which optical lens is sued for compensating/canceling the image aberrations of the intermediate image. Applicant should also note that the claims do not disclose any specific features/limitations for the aberrations or the components used to cancel the image aberrations.

Regarding to the applicant's arguments that the device of claims 42 and 43 is similar to the device of allowed claims, the Examiner respectfully disagrees because the device of each claims 42 and 43 is different from that of the allowable claims.

Allowable Subject Matter

8. Claims 1-31, 46-56, 70-71, 74-75 and 78-87 are allowed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

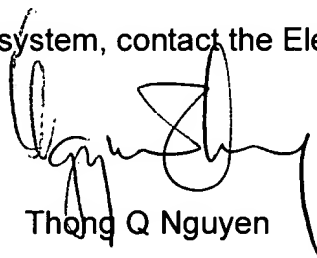
10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Nguyen

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Primary Examiner
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